

Application No. 10/720,807
Attorney Docket No. 13DV-14030 (07783-0110-01)

D.) AMENDMENTS TO THE DRAWINGS

None.

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E.) REMARKS

This Response is filed in response to the Office Action dated November 1, 2005.

Upon entry of this Response, claims 1-10 will be pending in the Application.

In the outstanding Office Action, the Examiner withdrew from consideration claims 11-19; rejected claims 1-10 under 35 U.S.C. 112, second paragraph, as being indefinite; rejected claims 1, 2 and 4-10 under 35 U.S.C. § 103(a) as being unpatentable over Ivkovich, Jr et al. (U.S. Patent No. 6,165,600); and rejected claims 1-10 under 35 U.S.C. § 103(a) as being unpatentable over Sangeeta et al. (U.S. Patent No. 5,985,368).

Rejection under 35 U.S.C. 103

A. Ivkovich (U.S. Patent No. 6,165,600)

The Examiner rejected 1, 2 and 4-10 under 35 U.S.C. § 103(a) as being unpatentable over Ivkovich, Jr et al. (U.S. Patent No. 6,165,600), hereafter referred to as "Ivkovich."

Specifically, the Examiner stated that

Ivkovich teaches a ceramic coating. Particular attention is directed towards Table 1. Note that Al4, SM8 and Al6SG are alumina ceramic fillers (see column 4, lines 41 and on). SR355 is a silicone binder that does not cure and forms silica (see column 5, lines 50 and on). This composition also contains an organic plasticizer. Note that the range of each component embraces the claimed weight ranges. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (i.e. does not require undue experimentation).

In view of the fact that the claimed ranges are embraced by the teachings in Ivkovich, the skilled artisan would have found such a composition to have been within routine experimentation and/or optimization. Note that the language "for use in a . . ." is a future intended use limitation that does not add patentability to the composition itself.

For claim 10, see line 44 of column 9.

Applicants respectfully traverse the rejection of claims 1, 2 and 4-10 under 35 U.S.C. § 103(a).

As understood, Ivkovich teaches a method of forming a multilayer ceramic coating system on a substrate using a tape that contains ceramic particles dispersed in an organic constituent, such as a binder and/or plasticizer.

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In contrast, independent claim 1, as amended, recites a composition for use in a ceramic composite stiffener including a web portion, at least one flange portion, a radius region disposed between the web portion and the at least one flange portion, a skin member that is secured to the at least one flange portion and the radius region, the composition being applied along the radius region adjacent the skin member, the composition comprising: about 55 % to 72 % by weight ceramic particles; about 1 % to 3 % by weight plasticizers; and about 20 % to 26% by weight silica-yielding liquids; and sufficient solvent to permit mixing of the components and forming a pliable composition, wherein the composition has been formed into a ceramic composite stiffener. (emphasis added)

Several of the features recited by Applicant in independent claim 1 are not taught or suggested by Ivkovich. For example, Ivkovich does not teach or suggest forming the composition into a ceramic composite stiffener as recited by Applicant in independent claim 1.

Applicant submits that dependent claims 2 and 4-10 are distinguishable from Ivkovich for at least the following reasons. To begin, dependent claims 2 and 4-10 are believed to be distinguishable from Ivkovich as depending from what is believed to be allowable independent claim 1 as discussed above.

Therefore, in view of the above, dependent claims 2 and 4-10 are believed to be distinguishable from Ivkovich and therefore are not anticipated nor rendered obvious by Ivkovich. In addition, claims 2 and 4-10 recite further limitations that distinguish over the applied art. In conclusion, it is respectfully submitted that claims 1, 2 and 4-10 are not anticipated nor rendered obvious by Ivkovich and are therefore allowable.

B. Sangeeta (U.S. Patent No. 5,985,368)

The Examiner rejected 1-10 under 35 U.S.C. § 103(a) as being unpatentable over Sangeeta et al. (U.S. Patent No. 5,985,368), hereafter referred to as "Sangeeta."

Specifically, the Examiner stated that

Sangeeta et al. teach a coating composition of a slurry containing spheres in a porous oxide matrix such as silicate or aluminosilicate. See for instance column 4, lines 10 and on, which teach zirconia spheres having a particle size of up to 400 microns. Such a particle size falls within the range of instant claim 3. The porous oxide matrix can be a silicate matrix or an aluminosilicate matrix prepared from a silicone resin. See for instance column 5, lines 25 to 42. Column 6, lines 40 and on, teach the addition of a solvent as a liquid carrier, including ethanol. Column 7, lines to 30, teaches the addition of plasticizers in an amount of .19 to 2 wt%.

On one hand, note claim 6, step (II) in Sangeeta et al. This teaches a slurry composition

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having from 25 to about 99 wt% zirconia. If the porous oxide matrix is silica, the remaining composition will be the silicone resin. This overlaps with the claimed amount of ceramic particles and silica yielding liquids such that one having ordinary skill in the art would have found the claimed range to have been within routine experimentation and/or optimization of the teachings of Sangeeta et al. This, combined with teaching that plasticizers can be added in an amount of 2 wt%, renders obvious the instant claims.

On the other hand, note Example 1, starting on column 12, line 45, and note that a slurry A is prepared that contains alumina but no zirconia spheres. In this composition 7 grams silicone resin and 22.5 grams alumina is added. This corresponds to a composition having 21 wt% silicone resin and 67.5 wt% alumina, falling within the claimed range. Since Sangeeta et al. suggest the addition of 21 wt% plasticizer, one having ordinary skill in the art would have found the addition of such a component to this slurry to have been obvious, thereby rendering obvious the instant claims.

For claim 4, though Sangeeta et al. do not specifically teach an organic plasticizer, the Examiner notes that these are the most commonly used type of plasticizers in ceramic forming compositions and the skilled artisan would have immediately envisioned the selection of organic plasticizers for the composition in Sangeeta et al. (note too that one must select organic plasticizers from the limited selection of organic or inorganic and such a limited selection is sufficiently small to render obvious this claim limitation).

For claim 6, the Examiner notes that the bottom of column 6 through column 7 teaches an amount of solvent greater than that claimed, but patentees disclose that the level may be adjusted depending upon use and that it is best to keep the amount of solvent to a minimum. As such the skilled artisan would have been motivated to use as little solvent as necessary, rendering obvious a composition having as little as, for instance, 10 wt% solvent.

Applicants respectfully traverse the rejection of claims 1-10 under 35 U.S.C. § 103(a).

As understood, Sangeeta teaches a thermal barrier coating that is a slurry composition. The coating methods involve the application of successive layers of variations of slurry compositions.

In contrast, independent claim 1, as amended, recites a composition for use in a ceramic composite stiffener including a web portion, at least one flange portion, a radius region disposed between the web portion and the at least one flange portion, a skin member that is secured to the at least one flange portion and the radius region, the composition being applied along the radius region adjacent the skin member, the composition comprising: about 55 % to 72 % by weight ceramic particles; about 1 % to 3 % by weight plasticizers; and about 20 % to 26% by weight silica-yielding liquids; and sufficient solvent to permit mixing of the components and forming a pliable composition, wherein the composition has been formed into a ceramic composite stiffener. (emphasis added)

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Several of the features recited by Applicant in independent claim 1 are not taught or suggested by Sangeeta. For example, Sangeeta does not teach or suggest forming the composition into a ceramic composite stiffener as recited by Applicant in independent claim 1.

Applicant submits that dependent claims 2-10 are distinguishable from Ivkovich for at least the following reasons. To begin, dependent claims 2-10 are believed to be distinguishable from Sangeeta as depending from what is believed to be allowable independent claim 1 as discussed above.

Therefore, in view of the above, dependent claims 2-10 are believed to be distinguishable from Sangeeta and therefore are not anticipated nor rendered obvious by Sangeeta. In addition, claims 2-10 recite further limitations that distinguish over the applied art. In conclusion, it is respectfully submitted that claims 1-10 are not anticipated nor rendered obvious by Sangeeta and are therefore allowable.

Rejection under 35 U.S.C. 112

The Examiner rejected claims 1-10 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter applicant regards as the invention.

Applicant respectfully traverses the rejection of claims 1-10 under 35 U.S.C. 112, second paragraph.

The Examiner stated:

For claim 1, the recitation of a percentage without indicating the type of percent-age is indefinite. For instance, this could refer to weight percent or volume percent. Without indicating the type of percent, the metes and bounds of this claim are indefinite.
For claim 2, CMC is not defined.
For claims 6, 9 and 10, reference to "evaporable solvent" lacks antecedent basis.

In response thereto, Applicant has amended claims 1, 2, 6, 9 and 10 in a manner that is believed to overcome the Examiner's rejection.

Therefore, in view of the above, Applicant submits that claims 1-10 are not indefinite and comply with the provisions of 35 U.S.C. 112, second paragraph, and therefore are allowable.

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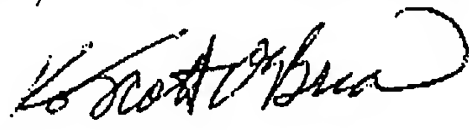
CONCLUSION

In view of the above, Applicant respectfully requests reconsideration of the Application and withdrawal of the outstanding objections and rejections. As a result of the amendments and remarks presented herein, Applicant respectfully submits that claims 1-10 are not anticipated by nor rendered obvious by Ivkovich or Sangeeta or their combination and thus, are in condition for allowance. As the claims are not anticipated by nor rendered obvious in view of the applied art, Applicant requests allowance of claims 1-10 in a timely manner. If the Examiner believes that prosecution of this Application could be expedited by a telephone conference, the Examiner is encouraged to contact the Applicant.

The Commissioner is hereby authorized to charge any additional fees and credit any overpayments to Deposit Account No. 50-1059.

Respectfully submitted,
MCNEES, WALLACE & NURICK

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